**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
REGION 4
ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8960

June 1, 2011

Chief, Rulemaking and Directives Branch
Office of Administration
Mail Stop: TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

RE: EPA Review and Comments
Final Environmental Impact Statement (FEIS) for the
Combined Licenses (COLs) for Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3
Construction and Operation of a New Nuclear Power Generating Facility
NUREG-1939
CEQ No. 20110127

Dear Sir:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject Final Environmental Impact Statement (FEIS) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act. We appreciate your responses to our comments regarding the Draft EIS (DEIS), which were included in Appendix E of this FEIS. The purpose of this letter is to inform you of the results of our review.

South Carolina Electric and Gas (SCE&G) in conjunction with Santee Cooper (the State owned electric and water utility) applied for combined construction permits and operating licenses (combined licenses or COLs) for Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3.

The proposed actions are:

- NRC issuance of the COLs for two new nuclear power reactor units (Units 2 and 3) at the VCSNS site in Fairfield County, South Carolina.

- U.S. Army Corps of Engineers (USACE) permit action on an Individual Permit application pursuant to Section 404 of the Clean Water Act, to perform certain activities on the site.

*Clean Water Act*

We appreciate the updated information in the FEIS regarding wetlands impacts. In addition, we had a recent telephone conversation (May 19, 2011) with the USACE regarding the current status of the Clean Water Act Section 404 permitting process. The USACE Individual Permit would allow permanent filling of approximately 0.26 acres of wetlands and disturbance of

774 linear feet of streams, as well as the permanent conversion of 43.7 acres of forested wetlands to nonforested wetlands because of new transmission lines connecting the VCSNS facility to the electrical grid. Including the fill in open water in order to install a discharge structure in the Parr Reservoir, the total fill in wetlands and open waters on the nuclear station site is approximately 1.3 acres.

A permit application was put on Public Notice on April 28, 2010, and included the site where the reactors are proposed (with no transmission lines included). EPA reviewed the impacts to wetlands and streams in response to the COE's public notice for the Clean Water Act Section 404 permit application, and transmitted a separate letter in accordance with Section 404 coordination procedures (July 2, 2010). That application was withdrawn by the applicant.

A revised permit application was submitted to the USACE on December 16, 2010, including the reactor site and all proposed transmission lines totaling approximately 396 miles for six lines to be located within five routes. The Public Notice was not issued for the revised application at that time because the finalized mitigation plan had not been received. The applicant recently submitted a final mitigation plan, which is currently under review by the USACE.

*NPDES*

VCSNS Units 2 and 3 will obtain water for the cooling water systems from two new intake structures that are proposed for the Monticello Reservoir, and this action will require compliance with Clean Water Act section 316(b) cooling water intake structure requirements. Also, prior to operation of Units 2 and 3, a NPDES permit to discharge liquid effluent to a surface water body is required. Water released from proposed Units 2 and 3 would flow through a pipeline to a discharge structure (outfall) on the Parr Reservoir. In addition, the design and operation of the stormwater systems for the proposed VCSNS Units 2 and 3 must comply with NPDES stormwater regulations administered by the SCDHEC.

*Air quality*

The FEIS (Section 2.9.2) states that *"All of the counties in the Columbia Intrastate AQCR are in compliance with the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants."* This statement needs to be corrected. Lexington County is located in the Columbia Intrastate Air Quality Control Region (AQCR). Lexington County violated the NAAQS for sulfur dioxide ($SO_2$) with a 2007-2009 design value of 83 ppb, and again with a 2008-2010 design value of 80 ppb, (the $SO_2$ NAAQS is 75 ppb).

The FEIS (Section 2.9.2) contains an outdated reference to the reconsidered ozone NAAQS. It states that final designations for the reconsidered NAAQS will be made in August 2011. This is no longer true. The reconsidered NAAQS are currently scheduled to be made final by the end of July 2011. The designations would occur one to two years following the final NAAQS. We do not have information at this time regarding whether the designations will be made in 2012 or 2013.

*Radioactive waste storage and disposal*

Radioactive waste storage and disposal are ongoing concerns with existing and proposed nuclear power plants. In addition, there are concerns regarding containment of radioactive materials and wastes in case of a natural disaster or other emergency. The NRC approved final revisions to the Waste Confidence findings and regulation (10 CFR Part 51.23) in September 2010. This update expresses confidence that commercial high-level radioactive waste and spent fuel generated by any reactor *"...can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor."* This refers to storage in a spent fuel basin or at either onsite or offsite independent dry spent fuel storage installations.

We note the NRC's recent issuance of reports regarding the inspections of the nation's existing nuclear power plants' capabilities to deal with power losses or damage to large areas of a reactor site following extreme events. Therefore, future planning for VCSNS Units 2 and 3 should include updated documentation regarding plans for the new plants to effectively cool down reactor cores and spent fuel pools following large fires or other events. As the project proceeds, the process should also evaluate the VCSNS ability to deal with the loss of electricity sources; major flooding events; fires and flooding combined with earthquakes; and other contingency plans. Findings pertinent to the construction of the new units should be addressed in the appropriate licensing documents. The FEIS, Section 5.11.2, Severe Accidents, and Tables 5-17, 5-18 and 5-19, reference information published prior to this FEIS. Information about potential consequences of severe accidents may need to be updated as the project progresses, based on more recent data and reports from the NRC.

Given the uncertainty regarding ultimate disposal at a repository, on-site storage of high level waste (HLW) may continue during operation and for many years following operating license termination. Therefore, there are ongoing concerns regarding on-site waste storage and emergency preparedness related to waste storage areas, particularly until an off-site repository under federal jurisdiction is available for ultimate disposition of radioactive wastes.

*Greenhouse Gases (GHG)*

We appreciate the discussion of climate change and greenhouse gases (GHG) in the FEIS. As NRC is aware, the Council on Environmental Quality (CEQ) issued draft guidance for public comment on when and how federal agencies must consider GHG emissions and climate change in their proposed action. While this guidance is not yet final (and thus, not required), EPA points out that further data collection may be necessary in the future regarding GHG emissions from this project.

EPA disagrees with the statement (Section 7.6.3) that the cumulative impacts of GHG emissions (from human sources) are *"noticeable but not destabilizing"*. EPA has noted that scientists are certain that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate (http://epa.gov/climatechange). Rising average temperatures are already affecting the environment. Some observed changes include shrinking of glaciers, thawing of permafrost, later

freezing and earlier break-up of ice on rivers and lakes, lengthening of growing seasons, shifts in plant and animal ranges and earlier flowering of trees (IPCC, 2007). Global temperatures are expected to continue to rise as human activities continue to add carbon dioxide, methane, nitrous oxide, and other greenhouse (or heat-trapping) gases to the atmosphere. We also note that in other areas of the FEIS (e.g., Section 5.7.2), the authors state that the emissions are "not" noticeable (in contrast to other statements that they "are" noticeable).

The Summary Comparison of Alternatives (Section 9.2.5) states with regard to the application of Best Available Control Technology (BACT) pursuant to the Tailoring Rule: *"Accordingly, the comparative relationship between the energy sources listed in Table 9-5 would not change meaningfully, even if the greenhouse gas emissions from the nuclear fuel cycle reductions are ignored, because greenhouse gas emissions from the other energy source alternatives would not be sufficiently reduced to make them environmentally preferable to the proposed project."* This statement makes a presumption, and provides no basis of support, for this supposition about the magnitude of source-specific BACT (in terms of GHG reductions) for a non-nuclear power generation facility.

The FEIS does not appear to address how EPA's rules for mitigation (such as the Clean Air Act New Source Review permitting requirements for greenhouse gases) would apply to this project. Also missing are the reporting requirements that may apply under EPA's Greenhouse Gas Reporting program. In addition, the document does not appear to cover potential regulatory responsibilities for greenhouse gas permitting (e.g., see EPA's New Source Review regulations and standards information web page at http://www.epa.gov/nsr/actions.html), and the Greenhouse Gas Reporting Program (see EPA's Climate Change – Regulatory Initiatives web page at http://epa.gov/climatechange/emissions/ghgrulemaking.html). We recommend that these issues be included within the context of the greenhouse gas discussion as the project progresses.

*Historic Preservation*

We note that historic preservation concerns are discussed in the FEIS, which contains updated information regarding coordination with the State Historic Preservation Office (SHPO), including the SHPO's concurrence with the finding of *"no adverse effect,"* meeting the NRC's National Historic Preservation Act (NHPA) Section 106 requirements.

*Conclusions*

Based on EPA's review of the FEIS, there continue to be some inherent environmental concerns regarding the storage, transportation and disposal of hazardous waste and radioactive wastes. The FEIS notes the need for continuing radioactive and hazardous materials and waste management, environmental monitoring to prevent ecological impacts, emergency preparedness, and radiological monitoring to ensure the safety of workers and the public. Also, further data collection may be necessary in the future regarding greenhouse gas (GHG) emissions from the nuclear fuel cycle. The FEIS states that impacts from the project to Environmental Justice (EJ) communities would be small, and that no unavoidable adverse impacts would occur. However, we recommend that community involvement and outreach should continue.

Final mitigation for the identified wetland impacts should be addressed during the Clean Water Act Section 404 permitting process, and EPA looks forward to working with the Corps and the applicant to further avoid and minimize impacts to the greatest extent possible. Please note that EPA may provide additional comments once the Public Notice is published.

Thank you for your coordination with us and the opportunity to comment on this FEIS. Please send us a copy of the Record of Decision (ROD). If you have any questions or need additional information, please contact Ramona McConney of my staff at (404) 562-9615.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Cc: Richard Darden, USACE